

DESCRIPTION OF THE THIRD-INSTAR LARVA AND PUPA OF  
*LYCOMEDES HIRTIPTES* ARROW (COLEOPTERA: SCARABAEIDAE:  
DYNASTINAE: AGAOCEPHALINI) WITH NOTES ON ITS BIOLOGY AND  
DISTRIBUTION IN COLOMBIA

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*Abstract.* The larva and pupa of the dynastine scarab beetle *Lycomedes hirtipes* Arrow from Colombia are described. This larval description is the first for the tribe Agaocephalini. A key to the larvae is provided for the genera of Dynastinae in the New World. Some data on the biology and distribution of the species in Colombia are also included.

*Resumen.*—Se describen la larva y la pupa de *Lycomedes hirtipes* Arrow. Esta representa la primera descripción larvaria para las especies de la tribu Agaocephalini. Se incluye una clave para separar las larvas hasta ahora conocidas de los géneros de Dynastinae del nuevo mundo. También se presentan algunos datos sobre la biología y la distribución de esta especie en Colombia.

*Key Words:* *Lycomedes*, Agaocephalini, immature stages, taxonomy, morphology

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The tribe Agaocephalini contains 11 genera and 43 species distributed from southern Mexico to Argentina (Endrödi 1985, Ratcliffe 2003). Ten species of *Aegopsis* Burmeister, *Horridocalia* Endrödi, *Lycomedes* Brême, and *Spodistes* Burmeister are cited from Colombia (Restrepo-Giraldo et al. 2003). Adults of these species are sporadically collected at lights, on rotten fruits, under loose bark, or in forest soil. Most of the species are associated with humid Andean tropical forests and plantations located from 1000 to 2100 m altitude. Larvae or pupae of the species of this tribe have not been described, and the habits of immatures are unknown. During field work of the first author (LCPL) in coffee plantations of Cauca

and Valle departments, Colombia, a number of dynastid larvae were collected under the litter layer. After breeding in the laboratory, some of these were identified as pupae and adults of Agaocephalini.

In this paper we describe for the first time the third-instar larva and the pupa of *Lycomedes hirtipes* Arrow, with observations on the habits, phenology and precise distribution of the species. Also, we present a key to the known third-instar larvae of the tribes and genera of Neotropical Dynastinae. Technical terms are those of Ritcher (1966), Morón (1987), and Costa et al. (1988). Studied specimens are deposited in the private collection of Familia Pardo Locarno (CFPL), Palmira, Valle, Colombia.

KEY TO THIRD-INSTAR LARVAE OF AMERICAN GENERA OF DYNASTINAE

Based on Ritcher 1966, Morón 1987, Morón and Ratcliffe 1990, Morón and Pardo-Locarno 1994, Morelli and Alzugaray 1994, Morelli 1997, Alvarez-Castillo et al. 1998, Vincini et al. 2000, Morelli and Morón 2003, Ratcliffe 2003, Onore and Morón 2004; Ramírez-Salinas et al. 2004, Ocampo and Morón 2004, Ratcliffe and Morón 2005.

- 1. Last segment of antenna with 1 dorsal sensory spot. Most of maxillary stridulatory teeth with anteriorly projecting points. Abdominal spiracles of segments 1-4 similar in size; those of segments 5-8 progressively smaller. . . . . 2
- 2. Last segment of antenna with 2 or more dorsal sensory spots. Most of maxillary stridulatory teeth truncate or rounded, without anteriorly projecting points. Size of abdominal spiracles otherwise. . . . . 3
- 2. Maximum width of head capsule 5-6 mm. Respiratory plate with 13-25 oval holes across any diameter. Maxilla with a row of 8-10 stridulatory teeth. . . . . *Orizabus* Fairmaire
- Maximum width of head capsule 3-4 mm. Respiratory plate with 12-20 elongate, irregularly shaped holes across any diameter. Maxilla with a row of 9-12 stridulatory teeth. . . . . *Aphomus* LeConte
- 3. Last segment of antenna with 2-5 dorsal sensory spots. . . . . 4
- Last segment of antenna with 6 or more dorsal sensory spots. . . . . 21
- 4. Raster with septula or pallidia. . . . . 5
- Raster without septula or palidia. . . . . 7
- 5. Ocelli present. Septula narrowed, not extending across lower anal lip. Palidia monostichous. Maximum width of head capsule 4.0-4.5 mm. . . . . *Euethoela* Bates
- Ocelli vague or absent. Septula widened, extending across lower anal lip. Palidia polystichous. Maximum width of head capsule 5-10 mm. . . . . 6
- 6. Each palidium consisting of 5-7 irregular rows of long pali. Last segment of antenna with 2 dorsal sensory spots. . . . . *Tomarus* Erichson (in part)
- Each palidium consisting of 2-3 irregular rows of short, spinelike pali. Last segment of antenna with 5 dorsal sensory spots. . . . . *Heterogomphus* (*s.str.*) Burmeister
- 7. Chaetoparia of epipharynx with numerous sensilla among setae, . . . . . 8
- Chaetoparia of epipharynx with few or no sensilla among setae. . . . . 10
- 8. Head blackish brown. Each acanthoparia with 4-6 setae. Maximum width of head capsule 7-8 mm. . . . . *Xyloryctes* Hope
- Head yellow or reddish yellow. Each acanthoparia with 8-13 setae. Maximum width of head capsule 3-5 mm. . . . . 9
- 9. Lateral margins of labrum sharply angulate posteriorly. Surface of cranium slightly roughened. Inner margin of both mandibles with a distinct premolar tooth. . . . . *Dyscinetus* Harold
- Lateral margins of labrum broadly rounded posteriorly. Surface of cranium reticulate, shiny. Inner margin of both mandibles smooth, not toothed. . . . . *Cyclocephala* Latreille
- 10. Dorsa of abdominal segments 8 and 9 each with 2 widely separated, transverse rows of long setae; short, stout setae absent. . . . . 11
- Dorsa of abdominal segments 8 and 9 each with variable number of short, stout setae and 2 widely separated, transverse rows of long setae . . . . . 14
- 11. Last segment of antenna with 4-5 dorsal sensory spots. Frons with a uniform covering of setae; primary setae of frons difficult to distinguish. Maximum width of head capsule 7-8 mm. . . . . *Philoscaptus* Bréthes
- Last segment of antenna with 2 dorsal sensory spots. Frons without uniform covering of setae; primary setae easy to distinguish or absent. Maximum width of head capsule 3-6 mm. . . . . 12
- 12. Frons without primary setae. Each acanthoparia with 8-9 setae. Head reddish brown. . . . . *Ancognatha* Erichson
- Frons with at least 1 pair of primary setae. Each acanthoparia with 10-11 setae. Head light brown or yellowish brown. . . . . 13
- 13. Frons with 1 exterior seta on each side. Posterior frontal setae and anterior frontal setae absent. Surface of cranium with numerous small pores. Ocelli vague. . . . . *Oxygryllus* Casey
- Frons with 1-2 exterior frontal setae and 1 posterior seta on each side. Anterior frontal setae absent. Surface of cranium slightly roughened, reticulate. Ocelli present. . . . . *Tomarus* Erichson (in part)
- 14. Lateral margins of labrum broadly rounded, not angulate. . . . . 15
- At least one lateral margin of labrum angulate. . . . . 18

- 15. Foretarsal claw longer than middle and hind tarsal claws . . . . . 16
- Foretarsal claw similar in size to middle and/or hind tarsal claws. . . . . 17
- 16. Epicranial setae abundant (more than 15). Right anterior process of hypopharyngeal sclerome much shorter than basal segment of labial palpus. . . . . *Actinobolus* Westwood
- Epicranial setae scarce (less than 10). Right anterior process of hypopharyngeal sclerome equal in length to basal segment of labial palpus. . . . . *Homophileurus* Kolbe
- 17. Ocelli present. Lateral third of frons with deep, coarse, coalescent punctures. . . . . *Triophus* Burmeister
- Ocelli absent. Anterior two thirds of frons with scattered, small, shallow pits. . . . . *Phileurus* Latreille (in part)
- 18. Left lateral margin of labrum angulate. . . . . 19
- Left and right lateral margins of labrum angulate. . . . . 20
- 19. Frons with 6 anterior frontal setae. Last segment of antenna with 4 dorsal sensory spots. . . . . *Archophileurus* Kolbe
- Frons without anterior frontal setae. Last segment of antenna with 2 dorsal sensory spots. . . . . *Phileurus* Latreille (in part)
- 20. Frons with 2 anterior frontal setae. Hap-  
tomeral process of epipharynx sinuate. . . . . *Phileurus* Latreille (in part)
- Frons without anterior frontal setae. Hap-  
tomeral process of epipharynx truncate. . . . . *Hemiphileurus* Kolbe
- 21. Each tarsal claw with 2 setae. . . . . 22
- Each tarsal claw with 3-4 setae (if tarsal  
claw with 2 setae, then with lateral margins  
of epipharynx slightly angulate, *Megasoma*  
*actaeon* L.) . . . . . 26
- 22. Lateral margins of epipharynx rounded,  
not angulate. . . . . 23
- Left lateral margin of epipharynx or both  
lateral margins of epipharynx slightly  
angulate. . . . . 25
- 23. Ocelli absent. Spiracles of abdominal seg-  
ments 1 to 8 similar in size. Last segment of  
antenna with 12 dorsal sensory spots.  
Maximum width of head capsule 10-  
12 mm. . . . . *Enema* Hope
- Ocelli present. Spiracles of abdominal  
segments 1 to 8 of different sizes. Last  
segment of antenna with 6-10 dorsal  
sensory spots. Maximum width of head  
capsule 7-8 mm. . . . . 24
- 24. Head with numerous pits and 2 anterior  
frontal setae, without posterior frontal  
setae. Maxilla with a row of 6 stridulatory  
teeth. Last segment of antenna with 6-7  
dorsal sensory spots. . . . . *Lycomedes* Brème
- Head dense and finely punctate, without  
anterior frontal setae, with 1 posterior  
frontal seta on each side. Maxilla with  
a row of 9-10 stridulatory teeth. Last  
segment of antenna with 8 dorsal sensory  
spots. . . . . *Diloboderus* Reiche
- 25. Inner margin of left mandible with 1 large  
tooth. Dorsum of abdominal segment 7  
with many short, spinelike setae. Spiracular  
bulla convex, without knoblike pro-  
cess. . . . . *Dynastes* Kirby
- Inner margin of left mandible with 2 large  
teeth. Dorsum of abdominal segment 7  
without short, spinelike setae. Spiracular  
bulla with large and acute knoblike pro-  
cess. . . . . *Golofa* Hope
- 26. Each acanthoparia with 9-10 setae. Dorsa  
of abdominal segment 7 with many short,  
stout setae. . . . . *Megasoma* Kirby
- Each acanthoparia with 10-15 setae. Dorsa  
of abdominal segment 7 without short,  
stout setae, or with scattered short, spine-  
like setae. . . . . 27
- 27. Spiracles of abdominal segments 1 to 5  
larger than spiracles of segments 6 to 8.  
Head without anterior frontal setae. Max-  
imum width of head capsule 14-15 mm  
. . . . . *Heterogomphus* (*Dineterogomphus* Prell)
- Spiracles of abdominal segments 1 to 8  
usually similar in size (except in *Strategus*  
*splendens* (Beauvois) with spiracle of ab-  
dominal segment 8 much smaller). Head  
with 2-8 anterior frontal setae. Maximum  
width of head capsule 9-12 mm. . . . .  
. . . . . *Strategus* Hope

LARVA OF *LYCOMEDES* BRÈME

This larval description of *Lycomedes hirtipes* Arrow is the first for the genus and the tribe Agaoccephalini. Based on current knowledge of Dynastinae larvae, the larvae of *Lycomedes* are most similar morphologically to those of *Diloboderus abderus* Sturm. The known larvae of *Lycomedes* have the head capsule with numerous pits and 2 anterior frontal setae, without posterior frontal setae; inner margin of left mandible with 2 teeth; maxilla with a row of 6 stridulatory teeth; the last segment of the antenna with 6-7 dorsal sensory spots; spiracles of abdominal segments 1 to 4 progressively larger, spiracles of segments 5 to 7 of similar size, and spiracle of abdominal segment 8 smaller than the

preceeding. Larvae of *Diloboderus* have the head capsule dense and finely punctate, without anterior frontal setae, with 1 posterior frontal seta on each side; inner margin of left mandible without tooth; the maxilla with a row of 9–10 stridulatory teeth; the last segment of the antenna with 8 dorsal sensory spots; spiracles of abdominal segments 2 to 6 of similar size, larger than spiracle of segment 1, and spiracles of abdominal segments 6 to 8 progressively smaller. Larvae of both genera have defined ocelli; lateral margins of epipharynx rounded, not angulate; each acanthoparia with 9–11 setae; distance between 2 lobes of respiratory plate shorter than dorsoventral diameter of bulla; spiracular bulla convex, without knoblike process; each tarsal claw with 2 setae; and do not have pallidia or septula.

*Lycomedes hirtipes* Arrow

(Figs. 1–15)

Description of the third-instar larva is based on three larvae collected in rich organic soil with litter from a coffee plantation shadowed with trees of *Inga* spp. “guamo” and *Erythrina poeppigiana* (Walp) “cachimbo” (Leguminosae); and five third-instar larvae collected under unidentified rotten logs from a coffee plantation or remnants of primary humid forest. Locality data: Colombia: Department of Cauca, Caldono, Pescador, 21-I-2001, 1450 m elevation, M. Trujillo (1 larva); same data except 26-II-2001, M. Trujillo and L.C. Pardo-Locarno (2 larvae); Cauca, Palmira, La Buitrera, 19-XI-2002, 1550 m elevation, L. C. Pardo-Locarno (2 larvae); and Valle, Quindio, Armenia, II-2003, 1400 m elevation, L. C. Pardo-Locarno (3 larvae)(CFPL).

Description of the male pupa is based on one pupa reared from a third-instar larva collected in soil of a shade coffee plantation and two exuvia of pupae

reared to adult males. Locality data: Colombia: Department of Cauca, Caldono, Pescador, 21-I-2001, 1,450 m elevation, M. Trujillo (1 pupa); same data except 26-II-2001, M. Trujillo and L. C. Pardo-Locarno (2 exuvia) (CFPL).

Description of the female pupa is based on one pupa and one exuvium of a pupa reared from a third-instar larvae collected in soil of shade coffee plantation; and one pupa reared from a third-instar larva collected in organic matter under a rotten log. Locality data: Colombia: Department of Cauca, Caldono, Pescador, 21-I-2001, 1,450 m elevation, M. Trujillo (1 pupa and 1 exuvium); Department of Quindio, Armenia, II-2003, 1400 m elevation, L. C. Pardo-Locarno (1 pupa) (CFPL).

Third-instar larva.—Approximate dorsal body length: 49–65 mm. Head dark to reddish brown. Mandibles reddish brown with apical third black. Body yellowish white, with sparse vestiture of setae, and anterior third slightly narrowed (Fig. 1). Legs yellowish with apex brownish.

*Head* (Figs. 1–2): Maximum width of head capsule 7.5–8.2 mm. Cranium shiny, with deep punctures less abundant toward epicranial suture. Frons punctate and finely rugose, with 2 short, anterior frontal setae and single anterior angle seta on each side. Dorsoepicranium with single, long seta on each side. *Clypeus*: Shape subtrapezoidal with anterior angles widely rounded, and single exterior seta on each side; surface with scattered, large punctures. Preclypeus weakly sclerotized, without setae. *Labrum*: asymmetrical, with anterior border slightly trilobed, without clithra; irregularly punctate, with row of 4 basal setae, single lateral seta on each side, and 4 anterior, long setae. *Epipharynx* (Fig. 3): Corypha with 5–7 stout, short setae. Haptomerall process beaklike, strongly sclerotized, with apex entire; 3–4 macroscopic sensilla behind process. Acantho-

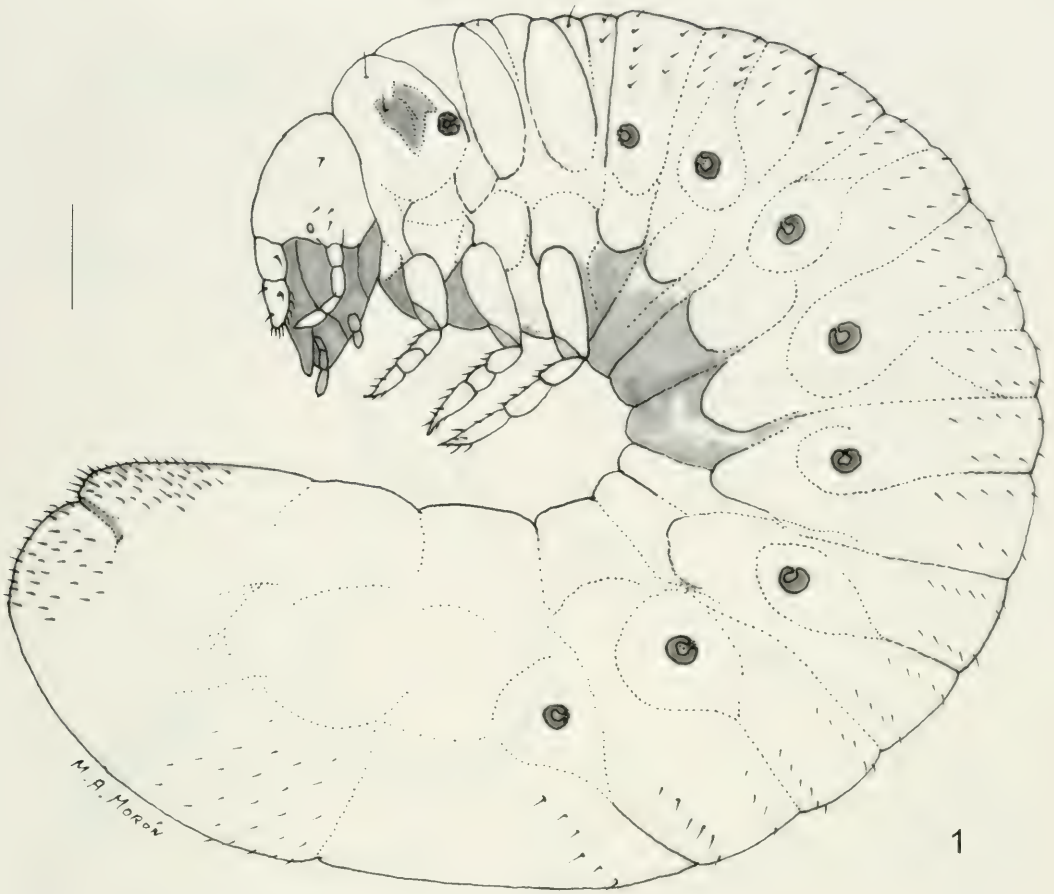
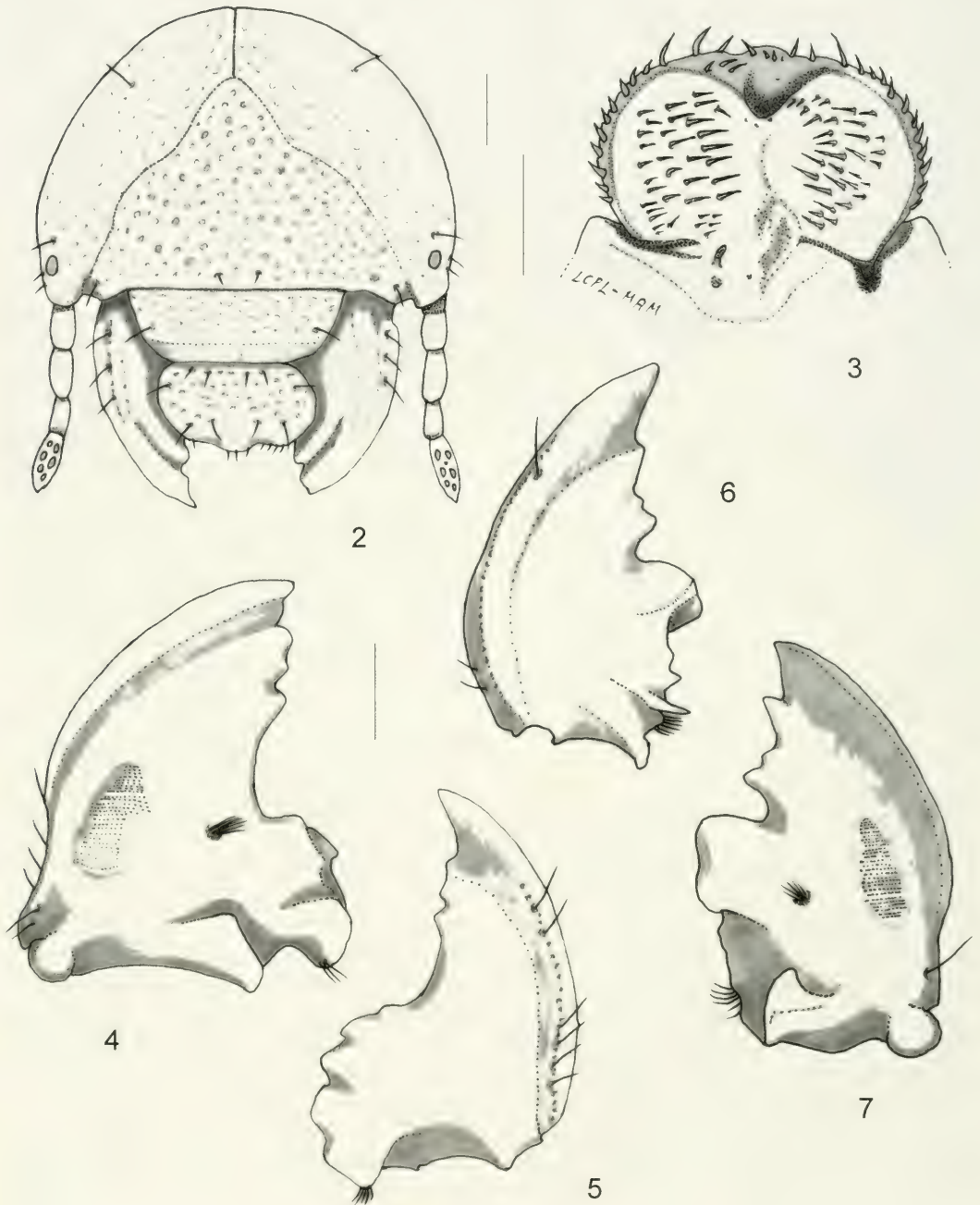


Fig. 1. *Lycomedes hirtipes*, third instar larva. Scale line = 5 mm.

paria with 10-11 short setae. Chaetoparia with 28-34 setae on each side. Gymnoparia narrowed. Dexiotorma moderately wide and long, with short pternotorma. Laeotorma short and narrowed, with large pternotorma. Nesia with sensorial cone elongate and with large sclerotized plate. Haptolachus with 4-5 sensilla bellow sensorial cone. Crepis weakly defined. *Mandibles*: Right mandible (Figs. 4-5) with 1 large scissorial tooth anterior to scissorial notch and 3 scissorial teeth posterior to notch. Stridulatory area irregular, length 3 times width, consisting of 32-35 transverse ridges of which proximal 8 ridges much broader. Mesad of stridulatory area is a group of

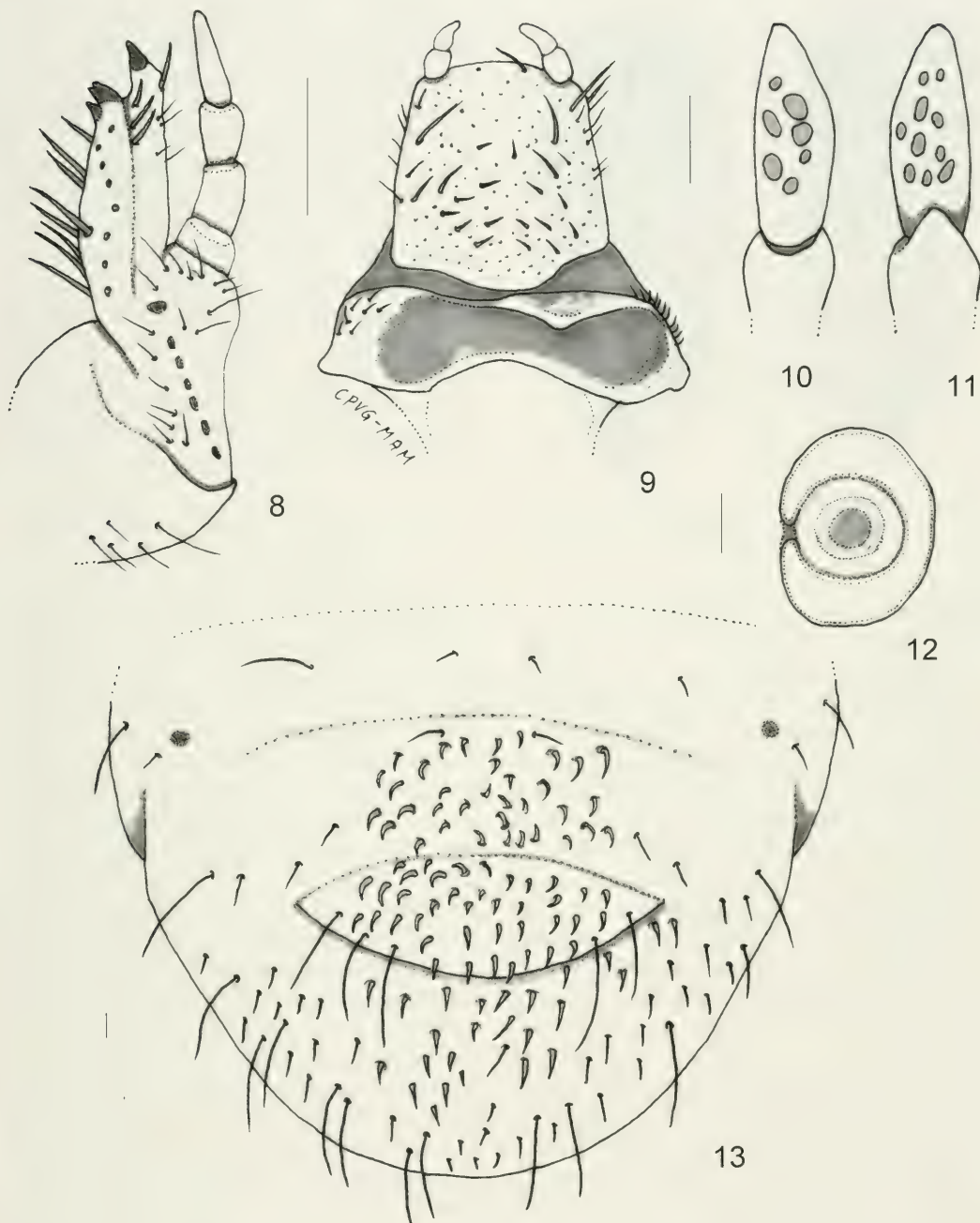
7-8 closely appressed setae. Molar area with 4 lobes. Calx wide, prominent. Brustia formed by 3-4 setae. Lateral face with 4 prebasal setae and 2 preapical setae. Left mandible (Figs. 6-7) with 1 large scissorial tooth anterior to scissorial notch, 1 large tooth posterior to notch, and 1 wide tooth, with sinuate border, on premolar area. Stridulatory area elongate, length 3 times width, consisting of 30-33 transverse ridges of which proximal 7 ridges much broader. Mesad of stridulatory area is a group of 6-7 closely appressed setae. Molar area with 3 lobes. Calx narrow, prominent. Acia narrowed, with rounded apex. Brustia formed by 4-5 setae. Lateral



Figs. 2-7. *Lycomedes hirtipes*, third instar larva. 2, Head, frontal view. 3, Epipharynx. 4, Right mandible, ventral view. 5, Right mandible, dorsal view. 6, Left mandible dorsal view. 7, Left mandible, ventral view. Scale lines = 1 mm.

face with 2-3 prebasal setae and 1 preapical setae. *Maxilla*: Galea and lacinia fused (Fig. 8) forming mala. Mala with large uncus at apex and 2

subterminal, conical unci. Surface with irregular rows of stout setae. Stridulatory area with row of 6 short, truncate teeth and a distal, transverse, truncate



Figs. 8–13. *Lycomedes hirtipes*, third instar larva. 8, Right maxilla, dorsal view. 9, Hypopharynx, dorsal view. 10, Last antennal segment, dorsal view. 11, Last antennal segment, ventral view. 12, Prothoracic spiracle. 13, Raster. Scale lines = 1 mm, except figs. 10–12 = 0.5 mm.

process. *Labium* (Fig. 9): Glossa slightly longer than wide, with 12–16 scattered setae and 6–8 sensilla at middle, and irregular, lateral rows formed by 5–8

setae on each side. Labial palpus short, with distal segment narrowed toward apex. Hypopharyngeal sclerome with wide, erect, truncate process on right



Figs. 14–15. *Lycomedes hirtipes*, female pupa. 14, Dorsal view. 15, Ventral view. Scale lines = 5 mm.

side, and group of 7–8 setae on left side; both lateral lobes with 5–6 setae arranged in 1 row. *Antenna*: First and third segments of same length, second segment 1.2 times longer than first, and last segment 1.6 times longer than third. Surface of last segment (Figs. 10–11) with 6–7 dorsal and 8–10 ventral sensory spots. Ocelli clearly defined (Fig. 2).

*Thorax* (Fig. 1): Prothoracic lateral sclerome irregularly shaped, with 1 erect seta. Pronotum, mesonotum and metanotum each with 2 long setae. Thoracic spiracle (Fig. 12) with irregular C-shaped respiratory plate 0.7–0.8 mm high and 0.5–0.6 mm wide; distance between 2 lobes of respiratory plate 0.25 times shorter than dorsoventral diameter of bulla; respiratory plate with 23–28 holes across diameter at middle; holes irregularly oval.

*Abdomen* (Fig. 1): Spiracles of abdominal segments 1 to 4 progressively larger (0.90–1.13 mm high and 0.87–1.05 mm wide), spiracles of segments 5 to 7 of similar size (1.02–1.05 mm high and 0.96–0.97 mm wide), and spiracle of abdominal segment 8 smaller than the preceding (0.81 mm high and 0.80 mm

wide). Dorsal areas of segments I–V each with sparse vestiture distributed in irregular, transverse rows as follows: each prescutum with 1 row of 5–10 short setae; each scutum with 1 row of 14–22 short setae and 1 row of 4–6 long setae; each scutellum with 1 row of 10–18 short setae. Dorsal area of segment VI with 1 transverse row of 11 short setae, 1 row of 8–10 short setae, 1 row of 22 short setae, and 1 row of 5–6 long setae. Dorsal area of segment VII with 1 transverse row of 11 short setae, 1 row of 6–10 short setae and 1 row of 6 long setae. Dorsal area of segment VIII with 1 transverse row of 5 long setae. Dorsal area of segment IX with 1 transverse row of 4 long setae widely separated. Dorsal area of segment X with 36 short setae irregularly distributed, and 24 long setae mixed with 90–100 short setae distributed near anal slit. Ventral areas of segments I–VI each with transverse row of 4–5 slender, medium size setae, widely separated. Ventral areas of segments VII–IX each with transverse row of 5–7 slender, long setae. Pleural lobes of abdominal segments I–VIII with sparse short setae. Raster (Fig. 13) without palidia or septula. Teges formed by 55–60 stout, short setae. Campus with 4 slender, long setae. Lower anal lip with 45–50 stout, short setae and 1 transverse row of 10–12 long setae on border of anal slit.

*Pupa*.—Male: Body length: 35–40 mm. Form elongate, robust, exarate. Orange yellow to reddish yellow, with velvety, golden yellow microtrichia on abdominal segments, mainly toward last segment.

*Head*: Reflexed downward; antenna, mouth parts and ocular canthus well differentiated. Compound eyes narrowed. Fronto-clypeal region with short, wide projection (1.5–1.8 mm length) apically truncated.

*Thorax*: Pronotum wider than long, convex, with a transverse small process or tubercle on middle of anterior half; lateral borders weakly angled; basal



border nearly straight. Meso- and meta-nota differentiated. Mesoscutellum widely rounded posteriorly. Metascutellum widely sinuated posteriorly. Ecdysial suture running from anterior border of pronotum to posterior border of meta-notum. Pteroteca narrowed, free, with apex rounded, compressed around body; hind wing teca slightly longer than elytron teca. Protibia with 3 pigmented, small areas on external border; meso- and metatibiae without projections or pigmented areas on external borders but with apical spurs differentiated; all tarsomeres weakly defined; protarsus with apex slightly enlarged and pigmented.

*Abdomen:* Tergites I–VIII convex, with 5 pairs of well sclerotized and pigmented dioneiform organs between segments II–VI and transverse sclerotized carina on anterior border of segment VII. Each dioneiform organ 2.5 mm wide. Tergo-lateral tubercles absent on all segments. Spiracle I elongated, not prominent. Spiracles II–IV large, with ringlike, sclerotized peritreme, slightly directed forward. Spiracles V–VII closed, slightly prominent, surrounded by fine rugae. Spiracle VIII weakly indicated by fine rugae. Sternites II–VII convex. Last segment without urogomphi, with lateroventral fleshy lobes and prominent genital ampulla on middle of ventral surface.

*Female:* Body length: 34–36 mm (Figs. 14–15). Similar to male except on head, thorax, and protarsus. *Head:* Fronto-clypeal area swollen, with rounded borders and deep hole in middle. *Thorax:* Pronotum broadly convex, with lateral borders weakly angled, without process or tubercle on middle of anterior half. Protarsus with same proportions of meso- and metatarsi, not enlarged.

**Biology and distribution.**—Third-instar larvae of *Lycomedes hirtipes* were observed in rich organic soils with an

abundance of litter in mountain tropical forests and old coffee plantations under dense shade. Larvae of other species of Dynastinae frequently found in these conditions are *Podischmus agenor* Olivier, *Strategus aloeus* (Linné), *Golofa eacus* Burmeister and *Aspidolea fuliginea* Burmeister. Larvae of *L. hirtipes* exhibit thanatosis when they are exposed by turning the head downward, retracting the legs, and curving tightly the body, and remaining quiet for a long time, thus simulating death until the disturbance is reduced. Then they dig into the soil with slow movements. The larvae of other sympatric species of Dynastinae are very active when exposed, and quickly crawl out of the disturbed area and return to soil.

Adults of *L. hirtipes* are dawn flyers. They sometimes feed on mature fruits and are active mainly during the summer-autumn rainy season in Colombia. According to Reyes-Úsuga (1995) they were attracted to black light traps located in Pance, Cali, Department of Valle during May (2), September (4), October (38), November (24), and December (1). Also, they were attracted to fruit baited traps located in Nirvana reserve, La Buitrera, Palmira, Department of Valle during August (8), September (9), October (39), November (6), and December (2) of 2000 (Serna and Pardo-Locarno personal communication).

No eggs were obtained from adults in captivity, so the time for a complete life cycle remains unknown. Field records for adults and rearing of third-instar larva collected in January to obtain pupae in July and adult emergence in August suggest a one year life cycle.

Restrepo et al. (2003) cited *L. hirtipes* from the Colombian departments of Boyacá, Caldas, Cauca, Huila, Tolima, and Valle. Recently, the first author (LCPL) collated data from national

collections and found specimens collected at the following localities: Antioquia (Supía), Cauca (Caldono, Popayán, La Sierra), Huila (Gigante), Nariño (La Unión), Quindío (Armenia, La Tebaida), Tolima (Ibagué, China Alta), Risaralda (Santa Rosa, La Florida), and Valle (Calusé, Felidia, Calima-Darién, San Antonio-Jamundi, including Pance, Tocoá, Saladito and Yanaconas-Cali districts). All the above localities are between 1,200 and 2,100 m elevation along the slopes of the western and central Andes in Colombia (approx. 1°–7°N; 74°–77°W) to the west of the Magdalena River. A record from department of Boyacá (Togui) need to be confirmed.

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